Economy and Derivations

During the defense, the issue about transderivational economy came up. While I don’t think that my analysis will work with strict local economy, I don’t think that I will have to resort to transderivational comparison. Chomsky (1995) suggests that a more economical derivation can only block another derivation if the two are based on the same numeration.

(1) … in evaluating derivations for economy, we only consider alternatives with the same numeration. (Chomsky (1995:p. 227))

Dan (and possibly other as well) were concerned about the fact that in my analysis I was comparing sentences such as (2a) and (2b), even though they do not seem to be based on the same numeration.

(2) a. Birgit stellte das Glas nicht auf einen Tisch.
   Birgit put the glass not on a table.
   ‘Birgit didn’t put the glass on a table.’

   b. Birgit stellte das Glas auf keinen Tisch.
   Birgit put the glass on neg-a table
   Birgit put the glass on no(ne of the) table(s)’.

In particular negation is expressed as an adverb in the former while it is part of the noun phrase in the latter.

If I understand the distributed morphology model correctly, then the classical notion of lexicon doesn’t really exist. In particular the elements that enter syntax are no longer considered to be of two types: simple unanalyzable elements (such as roots) and complex elements formed by morphology. Instead, there is a list in which all the atomic items (roots and grammatical features) are listed. Furthermore word formation is integrated into syntax, i.e. syntax manipulates parts smaller than a word the same way as complex structures are manipulated (i.e. by merge and move). I take the numeration to be taken from this list, i.e. instead of having kein and nicht on this list we find neg and the corresponding roots that negation can combine with.

Another feature of the distributed morphology model is that the actual phonological form of the word is inserted relatively late, i.e. variation in the expression of one and the same feature depending on the environment of the feature is easily explained.

I want to use this model by saying that the [neg]-feature has to merge with an indefinite article or it creates an adverb position on the left edge of VP\(^1\). If there is no indefinite article in the numeration, the latter option is obligatory. If there is an indefinite article, economy considerations will decide which option will be taken.

Take the case in which a derivation with nicht blocks a less economical derivation that would contain kein.

(3) a. Birgit stellte das Glas auf einen Tisch.
   Birgit put the glass on a table.
   ‘Birgit didn’t put the glass on a table.’

   b. Birgit stellte das Glas nicht auf einen Tisch.
   Birgit put the glass not on a table.
   ‘Birgit didn’t put the glass on a table.’

   c. Birgit stellte das Glas auf keinen Tisch.
   Birgit put the glass on neg-a table

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\(^1\) Considering the pairs etwas (something) – nichts, (nothing) jemand (someone) – niemand (no one), einmal (once) – nie(mals)(never), and the fact that these negative indefinites can express sentential negation, one may extend the class of possible ‘hosts’ for negation to indefinites in general.
I argue that (3b) is the ‘neutral’ sentential negation of (3a) blocking (3c), since movement of the [neg]-
feature from the adverb position on the left edge of VP is shorter than movement of [neg] from the
indefinite article within VP. I want to suggest that both sentences (3b) and (3c) could be derived from the
same numeration and thus economy principles can decide between the two of them. The numeration for
the two sentences would look something like the following omitting most grammatical features with the
exception of the [neg] feature .

\[
\text{Num} = \{ \text{Birgit, stellen, das, Glas, auf, ein, Tisch, [neg], …} \} \quad 2.
\]

Based on this numeration [neg] could combine with the indefinite article *ein* or create an adverb position.
Since covert movement of [neg] to [Spec, NegP] from the adverb position is shorter than from the position
of the indefinite article inside VP, the derivation that results in (3b) blocks the derivation of (3c). This
approach does require a certain amount of look ahead and thus is not compatible with a strict local
economy approach. In order to decide which form of negation (*nicht* or *kein*) is more economical both
derivations have to be completed (at least to a certain extent) and then economy is calculated.
Similarly, in a sentence with more than one indefinite article the [neg] feature will attach to the indefinite
article, this will allow for the shortest movement to [Spec, NegP].

(5)  
\begin{align*}
\text{a. Ein Mann hat kein Buch gekauft.} & \quad \text{A man has neg-a book bought.} \\
\quad \text{‘A man didn’t buy a book, (but sth. else).’ Etc.} & \\
\text{b. Kein Mann hat ein Buch gekauft.} & \quad \text{Neg-a man has a book bought} \\
\quad \text{‘A man didn’t buy a book.’} &
\end{align*}

(5a) and (5b) will thus be based on the same numeration, [neg] merging with the indefinite article of the
object NP in the former, while merging with the subject indefinite in the latter. Thus, the more economical
derivation that results in (5b) can block the derivation leading to (5a).

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\text{2 stands for a root.}
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